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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/828,306

04/21/2004

Ryoji Furuhashi

501.43789X00

4788

24956

7590

09/13/2005

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.  
1800 DIAGONAL ROAD  
SUITE 370  
ALEXANDRIA, VA 22314

EXAMINER

MCLEAN MAYO, KIMBERLY N

ART UNIT

PAPER NUMBER

2187

DATE MAILED: 09/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/828,306

Applicant(s)

FURUHASHI ET AL.

Examiner

Kimberly N. McLean-Mayo

Art Unit

2187

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on April 9, 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/7/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. The enclosed detailed action is in response to the Information Disclosure Statements submitted on July 20, 2004 and May 18, 2005, the Priority Paper submitted on September 16, 2004 and the Application submitted on April 9, 2004.

### ***Specification***

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-16 and 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 1 recites the limitations "the level", "the previously", "the storage destination" in lines 7-8, 13 and 18 respectively. There is insufficient antecedent basis for this limitation in the claim.

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Claims 2-10, 15-16 and 19 are rejected as dependent claims of claim 1, thereby encompassing the aforementioned limitations.

7. Claim 6 recites the limitations "said reproduction", in line 2. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 11 recites the limitations "the level" and "the previously", in lines 6 and 7 respectively. There is insufficient antecedent basis for this limitation in the claim.

Claims 12- 14 are rejected as dependent claims of claim 11, thereby encompassing the aforementioned limitations.

9. Claim 18 recites the limitations "the level", "the logical storage regions", and "the previously", in lines 3-4, 7 and 9 respectively. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 20 recites the limitations "the levels", "the performance", "the processing speed", "the availability", "the recovery" and "the timing" in lines 11-12, 13 and 18 respectively. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1, 7-11, 14 and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamiyama (USPN: 5,893,139).

Regarding claims 1, 7-8, 11, 14 and 17-18, Kamiyama discloses at least one host computer device (external computer coupled to the LAN, reference 10 in figure 1); at least one storage device having a plurality of physical storage regions for storing data used by the computer device (Figure 1, References 3, 4, 5a-5n); physical storage region characteristics managing means for managing the level of storage characteristics provided by each of the plurality of physical storage regions (Figure 6, References 21-24 and 25-30; C 6, L 5-67; C 7, L 1-36); data storage destination managing means for managing associations between the plurality of physical storage regions and the data stored in each in each physical storage region (Figure 6, Reference 32; C 7, L 49-53, L 60-67; C 8, L 1-29); characteristics changing managing means for managing previously determined temporal change in the level of the storage characteristics required of the storage destination physical storage region by the data managed by the data storage destination managing means (internal logic for managing the tables in Figures 11, 12, 13, 14), movement instructing means for acquiring, at prescribed times, the level of storage characteristics in the storage destination required by the data at that time, for each data item managed by the data storage destination managing means, further acquiring the level of storage characteristics of the

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physical storage region in which the data is actually stored, from the physical storage region characteristics managing means, comparing the respective levels and issuing an instruction to the storage device for the data to be moved to the physical storage region providing the required storage characteristics (C 9, L 20-67; C 10, L 1-42; L 51-67; C 11, L 36-63; the levels are compared effectively by comparing the frequency access time with the access rate of the storage; if the data is stored in an ultra high storage then the data accessed the least frequent will not match the criteria for that storage and will be relocated to a lesser frequency storage).

Regarding claim 9, Kamiyama discloses updating means for updating the information managed by the data storage destination managing means in such a manner that the data is associated with the physical storage region after movement (C 8, L 18-23).

Regarding claims 10 and 15-16, Kamiyama discloses the data storage destination managing means manages the logical storage regions accessed directly by the computer device, logical/physical mapping information that associates the logical storage regions with the physical storage regions, and information associating the data with the logical storage region in which the data is stored and the logical/physical mapping information is updated in accordance with the movement performed by the data movement means (C 7, L 49-53, L 60-67; C 8, L 1-28).

***Allowable Subject Matter***

13. Claim 20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

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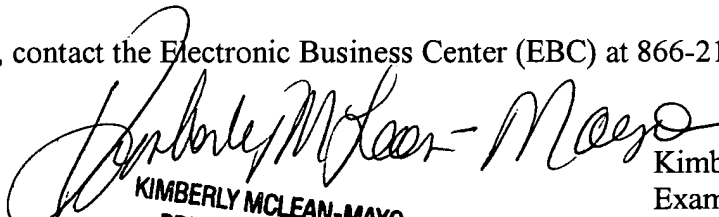
14. Claims 2-6, 12-13 and would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly N. McLean-Mayo whose telephone number is 703-308-9592. The examiner can normally be reached on Tues, Thr, Fri (10:00 - 6:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on 703-308-1756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**KIMBERLY MCLEAN-MAYO**  
**PRIMARY EXAMINER**

Kimberly N. McLean-Mayo  
Examiner  
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KNM

September 7, 2005